Kansas Mumps Outbreak

Background

Mumps is an acute viral illness. The incubation period is typically 14 to 18 days, but may be as long as 25 days. Early symptoms are often non-specific, and include general aches and pains, loss of appetite, headache, and low-grade fever. The most common manifestation of mumps is parotitis (swelling of the parotid glands). Complications include orchitis (testicular inflammation), viral meningitis, ovarian inflammation, pancreatitis, and deafness. Permanent disability or death is rare. Up to 20% of persons infected may be asymptomatic.

The incidence of mumps has decreased dramatically after the "Jeryl Lynn" strain of live mumps vaccine was licensed in December 1967. The last notable resurgence of mumps in the US occurred in northeast Kansas in 1988-89. However, the overall number of mumps cases in the U.S. has steadily declined. On average, Kansas usually sees less than two cases per year.

Current Outbreak

The state of Iowa reported a substantial increase in mumps cases beginning in late February of 2006. By April 17, over 700 cases were reported. The majority of the cases in Iowa have been among adolescents and young adults. Nebraska has the second highest number of cases. Several other surrounding states, including Kansas, have begun reporting increases in cases as well.

As of noon of April 17, Kansas has reported 104 confirmed, probable, and suspect cases of mumps. The majority of these cases have occurred in Douglas County; most of these cases were found in students attending the University of Kansas. Cases have also been reported in 21 other Kansas counties. There has been one case of meningitis among these cases. The majority of cases in Kansas are among young adults (ages 20 – 30 years); however, there have been a few cases reported among children and older adults. More than 75% of Kansas cases have reportedly been immunized at least once against mumps; over half have received two vaccinations.

Surveillance, Prevention, and Control Measures

KDHE is working closely with local health departments to rapidly identify and report cases. Reported cases are being investigated by both local health department and KDHE staff to ascertain important demographic and laboratory information to help characterize the epidemic and limit transmission in the communities.

KDHE has provided guidance to local health departments, health care providers, and other partners regarding the importance of appropriate laboratory testing, case reporting, and prevention and control measures.

KDHE continues to stress to the public that immunization against mumps (a part of the measles, mumps, and rubella vaccine, or MMR), remains the most important means of protection. The CDC has long emphasized that the MMR vaccine is more than 90% effective in conferring long-term immunity to mumps. However, last week this estimate was revised based on work in an

outbreak in New York State several years ago. At this time, the CDC advises that a single MMR is effective in providing immunity to mumps in 80% of those vaccinated; a second dose conveys immunity to an additional 10-15% of persons. As a result of this new information, KDHE will be amending it's advice to reflect that all persons receive two doses of the MMR vaccine.

Isolation of cases is also an important strategy to prevent transmission. Consistent with recommendations from the U.S. Centers for Disease Control and Prevention (CDC), KDHE is recommending that persons who have been diagnosed with mumps be excluded from child care, school, work, and other social settings for four (4) days after onset of illness. KDHE is also recommending that persons who are exposed to mumps and who are susceptible (i.e., not immune due to previous history of mumps or immunization), also be excluded from these settings from the 12th to the 25th day following exposure. Their exclusion may be lifted upon receipt of a single dose of a vaccine against mumps.

KDHE is the state repository for vaccine used in the federal VFC (Vaccines for Children) Program. We currently have roughly 10,000 doses of the MMR vaccine on hand, and we've been cleared to make these doses available to local health departments to immunize specific high-risk individuals of any age within local communities.

Hypotheses Regarding Cause of Current Outbreak

The pattern underlying the outbreak of mumps at this time is uncertain. We do know that it does not appear to be due to the emergence of any new strain of virus, nor to any change in laboratory techniques that might help us uncover previously undiagnosed cases. We also know that as of now, we have established no definitive epidemiological links between cases in Kansas to those in other states. The majority of mumps cases in Kansas have received at least one MMR vaccination, and it may be that by chance we have found a group of "non-responders" to vaccine clustered together in a way that allows an outbreak to occur. Given the incubation period of mumps and the fact that our first cases were noted two weeks ago, we do expect to continue to see cases in the near future. KDHE continues to work within the state and with our partners in Iowa, Nebraska, and the CDC to investigate this outbreak, and will be sharing information as we learn more.

Mumps in Perspective

It's important to recognize that the fact that a mumps outbreak makes news is, in and of itself, good news. The time was not long ago when many children died in infancy from preventable infectious diseases like measles, pneumonia, diptheria, and whooping cough. The fact that we no longer live with these killers in our daily life means that news of an outbreak is in many ways a testament to the benefits of mass vaccination. In addition, the fact that we're able to track 104 cases within a Kansas population of 2.7 million indicates the efficacy of our public health surveillance system. Kansas can be confident in it's response to this outbreak of mumps.